

## WALKER ANDERSON LONG

## CURRICULUM VITAE

Personal Information

Walker Anderson Long, M.D., FACC, FCCP

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Clinical Research Division  
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Date and place of birth  
 March 9, 1949, Cleveland, Ohio

Home Address  
 112 Stonridge Drive  
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Division of Pediatric Cardiology  
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 509 Burnett Womack Bld. 229H  
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Marital status married to  
 Wendy Dascomb, June 1, 1970

Children  
 Joshua 1973  
 Millie 1976  
 Hadley 1982

Education

1967	<u>cum laude</u> , St Andrew's School, Middletown, Delaware
1971	B.A., University of North Carolina at Chapel Hill, Chapel Hill, North Carolina
1971-1972	Special student, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina
1976	M.D. with Honors, University of Carolina at Chapel Hill, Chapel Hill, North Carolina.
1976-1977	Medicine/Pediatrics Intern, North Carolina Memorial Hospital, Chapel Hill, North Carolina
1977-1978	Junior Assistant Resident, Pediatrics, North Carolina Memorial Hospital, Chapel Hill, North Carolina
1978-1979	Junior Assistant Resident, Medicine, North Carolina Memorial Hospital, Chapel Hill, North Carolina
1978-1979	Senior Assistant Resident, Pediatrics, North Carolina Memorial Hospital, Chapel Hill, North Carolina
1979-1981	Fellow, Division of Neonatology, Department of Pediatrics, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina
1981-1983	Fellow, Division of Pediatric Cardiology, Department of Pediatrics, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Appointments

1990- Research Associate Professor, Division of Pediatric Cardiology, Department of Pediatrics, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

1989- Head, Pulmonary Section, Department of Cardiovascular, Pulmonary, and Hematologic Medicine, Clinical Research Division, Wellcome Research Laboratories, Burroughs Wellcome Co., Research Triangle Park, North Carolina

1983-1990 Research Assistant Professor, Division of Pediatric Cardiology, Department of Pediatrics, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

1987-1989 Senior Clinical Research Scientist III, Clinical Therapeutics Section, Clinical Research Division, Wellcome Research Laboratories, Burroughs Wellcome Co., Research Triangle Park, North Carolina

1985-1987 Senior Clinical Research Scientist II, Clinical Therapeutics Section, Clinical Research Division, Wellcome Research Laboratories, Burroughs Wellcome Co., Research Triangle Park, North Carolina

1983-1985 Senior Clinical Research Scientist I, Clinical Pharmacokinetics and Pharmacodynamics Section, Clinical Research Division, Wellcome Research Laboratories, Burroughs Wellcome Co., Research Triangle Park, North Carolina

1981-1983 Physical Diagnosis Instructor, Division of Pedodontics, School of Dentistry, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

1980-1983 Physical Diagnosis Instructor, Division of Oral and Maxillo-Facial Surgery, School of Dentistry, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Certification and Licensure

1976 Federal Licensing Examination, #512333, June 15, 1976

1976 North Carolina license #20932 issued June 16, 1976

1976 Drug Enforcement Administration #AL7648085

1977 Louisiana license #4059R issued November 11, 1977

1981 American Board of Pediatrics, #26425, September 27, 1981

1981 American Board of Pediatrics, Subspecialty Board of Neonatal-Perinatal Medicine, #960, October 23, 1981

1984 Advanced Cardiac Life Support, American Heart Association, June 20, 1984

1985 American Board of Pediatrics, Subspecialty Board of Pediatric Cardiology, #742, October 18, 1985

1986 Instructor Certification, Advanced Cardiac Life Support, American Heart Association, February 22, 1986

Professional Societies

1982- Southeastern Pediatric Cardiology Society  
 1982- American Heart Association  
 1982- American Thoracic Society  
 1982- North Carolina Thoracic Society  
 1983- Southern Perinatal Association  
 1983- Southern Society for Pediatric Research  
 1985- North Carolina Society for Neuroscience  
 1986- American College of Cardiology  
 1987- American College of Chest Physicians  
 1987- New York Academy of Sciences  
 1987- AHA Cardiopulmonary Council  
 1987- AHA Council on Cardiovascular Disease  
       in the Young

Honors and Awards

1967 Graduated cum laude from St. Andrew's School,  
 Middletown, Delaware

1967 Honors Program, University of North Carolina  
 at Chapel Hill, Chapel Hill, North Carolina

1973 Honors, First Year, School of Medicine, University of North  
 Carolina at Chapel Hill, Chapel Hill, North Carolina

1974 Honors, Second Year, School of Medicine, University of North  
 Carolina at Chapel Hill, Chapel Hill, North Carolina

1975 Honors, Third Year, School of Medicine, University of North  
 Carolina at Chapel Hill, Chapel Hill, North Carolina

1976 Honors, Independent Study, Fourth Year, School of Medicine,  
 University of North Carolina at Chapel Hill, Chapel Hill,  
 North Carolina

1976 Alpha Omega Alpha, School of Medicine, University of North  
 Carolina at Chapel Hill, Chapel Hill, North Carolina

1976 Sandoz Award, for superior academic achievement and contribution  
 to health care, School of Medicine, University of North Carolina  
 at Chapel Hill, Chapel Hill, North Carolina

1976 M.D. with Honors, School of Medicine, University of North  
 Carolina at Chapel Hill, Chapel Hill, North Carolina

1982 Finalist, Young Investigator's Competition, Section on  
 Cardiology, American Academy of Pediatrics, October 23, 1982,  
 New York, New York

1986 Clifford W. Perry Research Award, American Lung Association of  
 North Carolina

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Honors and Awards

1986 President's Award, Burroughs Wellcome Co.  
1990 Excellence Award, Burroughs Wellcome Co.  
1990 Special Merit Award, Burroughs Wellcome Co.

Editorial Activities

Writer: American Board of Pediatrics Recertification Examination  
Reviewer: Journal of Applied Physiology  
Biochemical Biophysical Research Communications  
Journal of Pediatrics  
Chest  
Pediatrics  
Editor: Fetal and Neonatal Cardiology, Philadelphia, W.B. Saunders Co.,  
1990.  
Co-Editor: Symposium on Synthetic Surfactant, J. Pediatrics, in press.  
Anthony Corbet, M.B.B.S., co-editor.

Patents

1. Tadepalli, A.S., Long, W.A., Crow, J.W., Klein, K.B.: U.S. Patent  
[REDACTED]
2. Tadepalli, A.S., Long, W.A., Crow, J.W., Klein, K.B., Whittle, B.J.R.:  
European Patent [REDACTED]
3. Long, W.A.: U.S. Patent [REDACTED]
4. Long, W.A., Crow, J.W.: U.S. Patent [REDACTED]
5. Crow, J.W., Long W.A.: U.S. Patent [REDACTED]
6. Crow, J.W., Long W.A.: U.S. Patent [REDACTED]

Invited National and International Lectures

1. Visiting Lecturship, St Joseph's Hospital, Ontario, Canada: "Developmental changes in the superior laryngeal nerve inhibitory effect", May 11, 1981.
2. Visiting Lectureship, Maternidad Hospital del Salvador, Facultad de Medicina, Universidad de Chile, Santiago, Chile, "Central neural regulation of breathing in the newborn", April 5, 1984.
3. Symposium "The Second Grover Conference On The Pulmonary Circulation: The Role Of Lipid Mediators." The Lost Valley Ranch, Deckers, Colorado, "Modification of pulmonary hypertension in COPD by prostacyclin", September 18, 1986.
4. Symposium "Pulmonary Vascular Disease", 52nd Annual Scientific Assembly, American College of Chest Physicians, San Francisco, California, "Prostaglandins in the spectrum of vasodilator therapy in pulmonary vascular disease", September 25, 1986.
5. Symposium "International Conference on Primary Pulmonary Hypertension", University of Pennsylvania, Philadelphia, "Central neural regulation of the pulmonary circulation", May 6, 1987.
6. Symposium "The Third Grover Conference On The Pulmonary Circulation: The Control of Cellular Proliferation in the Pulmonary Circulation". The Lost Valley Ranch, Deckers, Colorado, "Longterm use of prostacyclin in primary pulmonary hypertension", September 21, 1988.
7. Symposium "New Drugs For Pulmonary Hypertension", 54th Annual Scientific Assembly, American College of Chest Physicians, Anaheim, California, "Prostacyclin in the treatment of pulmonary hypertension", October 7, 1988.
8. Symposium "Clinical Trials of Surfactant", Special Ross Conference: Hot Topics in Neonatology 88, Washington, D.C., "EXOSURF", December 12, 1988.
9. Eleventh Annual Conference, Idaho Perinatal Project, Boise, Idaho, "Surfactant replacment therapy", January 26, 1989.
10. Eleventh Annual Conference, Idaho Perinatal Project,, Boise, Idaho, "Persistent pulmonary hypertension of the newborn syndrome", January 26, 1989.
11. International Conference, "60 Years of Surfactant Research", Rotterdam, Holland, "Effects of single prophylactic dose of EXOSURF Pediatric at birth in 700-1100 gram infants", November 17, 1989.
12. International Conference, "60 Years of Surfactant Research", Rotterdam, Holland, "Effects of two rescue doses of EXOSURF Pediatric in 700-1350 gram infants with RDS", November 17, 1989.
13. International Conference, "60 Years of Surfactant Research", Rotterdam, Holland, "Effects of two rescue doses of EXOSURF Pediatric in large infants with RDS", November 17, 1989.

Invited National and International Lectures (continued)

14. Symposium, "Perinatology 1990", Pennsylvania Hospital and the University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania, "Surfactant replacement therapy", October 25, 1990.
15. Symposium, "Innovations in Neonatal and Pediatric Drug Therapy", American Society for Hospital Pharmacy, Las Vegas, Nevada, "Surfactant Replacement Therapy", December 2, 1990.
16. Symposium "Clinical Trials of Surfactant", Special Ross Conference: Hot Topics in Neonatology 90, Washington, D.C., "1990 News on Exosurf<sup>R</sup> Neonatal", December 8, 1990.
17. "23rd Annual Cardiovascular Symposium", American College of Cardiology, New York, New York, "Continuous prostacyclin treatment of primary pulmonary hypertension", December 15, 1990.
18. Eighteenth Annual Meeting, District VIII, American Academy of Pediatrics, Whistler, British Columbia, "Clinical experience with EXOSURF Neonatal", May 25, 1991.
19. Progress in Neonatology, IX. Internationales Kliniksymposium Univ-Kinderlink, Vienna, Austria, "Recent results with the synthetic surfactant Exosurf Neonatal", June 29, 1991.
20. Sociedad Latinoamericana de Investigacion Pediatria, XXIX Reunion Anual, Vina del Mar, Chile, "Surfactantes exogenos. Ayer, hoy, y manana", October 30, 1991.
21. Curso de Cuidado Intensivo Neonatologia-Pediatria, Hospital Dr. Sotero del Rio, Univerisdad Catolica de Chile, Santiago, Chile, "Surfactante", October 31, 1991.
22. Exosurf Neonatal Launch Meeting, Pan Pacific Hotel, Auckland, New Zealand, "Exosurf introduction" and "Cost effective issues", December 7, 1991; "Safety and adverse effects", December 8, 1991.

Grants Funded

- 1979-1980      An Evaluation of Acyclovir When Parenterally Administered to Neonates With Infections Caused by Herpes Simplex, and Cytomegalovirus. Wellcome Research Laboratories. Co-Principal Investigator, \$1500.
  
- 1980-1981      Pilot Study of Epoprostenol (Prostacyclin Sodium) in Treatment of Persistent Pulmonary Hypertension of the Newborn (PPHN) in Neonates Unresponsive to Ventilatory Therapy. Wellcome Research Laboratories. Co-Principal Investigator, \$2002.
  
- 1983-1984      Reflex Pulmonary Vasoconstriction. Wellcome Research Laboratories. Principal Investigator. November 1, 1983- October 31, 1984, \$18,405.
  
- 1983-1984      Central Neural Regulation of Cardiopulmonary Function in Newborns. Physicians New Orleans Foundation. Principal Investigator. December 1, 1983- November 30, 1984, \$25,000.
  
- 1984-1985      Central Neural and Autonomic Regulation of Cardiopulmonary Function in Newborns. Physicians New Orleans Foundation. Principal Investigator. November 1, 1984- October 30, 1985. \$5,000.
  
- 1985-1986      Central Neural Regulation of Pulmonary Vascular Resistance. North Carolina Heart Association. Principal Investigator. July 1, 1985- June 30, 1986. \$8,900.
  
- 1986-1987      Prostaglandins and control of breathing in the newborn. American Lung Association of North Carolina. Principal Investigator. July 1, 1986- June 30, 1987. \$5,490.
  
- 1986-1990      Chemoreceptors and hypoxic pulmonary vasospasm. Wellcome Research Laboratories. Principal Investigator. July 1, 1986- June 30, 1990. \$20,000.

## BIBLIOGRAPHY

Publications: Refereed Journals

1. Long, W.A. and E.E. Lawson: Developmental aspects of the effect of naloxone on control of breathing in piglets. *Respiration Physiology*, 51:119-129, 1983.
2. Lawson, E.E. and Long, W.A.: The central origin of the biphasic breathing pattern during hypoxia in newborns. *Journal of Applied Physiology*, 55:483-488, 1983.
3. Lawson, E.E. and Long, W.A.: Interaction of the superior laryngeal nerve and carotid sinus nerve afterdischarge mechanisms. *Journal of Applied Physiology*, 55:1299-1304, 1983.
4. Long, W.A., Lawson, E.E., Harned, H. S. Jr., and Kraybill, E. N.: Pleural effusion in the first days of life: a prospective study. *American Journal of Perinatology*, 1:190-194, 1984.
5. Long, W.A.: Lessons from the traditional American Indian medicine man. *The Pharos*, 47:7-10, 1984.
6. Long, W.A., Lawson, E.E., Henry, G.W., and Harned, H.S.Jr.: Infradiaphragmatic total anomalous pulmonary venous drainage: new diagnostic, physiologic, and surgical considerations. *American Journal of Perinatology*, 1:227-235, 1984.
7. Long, W.A., Lawson, E.E. and Ulshen, M.: Clinical features of congenital syphilitic hepatitis: implications for pathogenesis. *Journal of Pediatric Gastroenterology and Nutrition*, 3:551-555, 1984.
8. Long, W.A. and Willis, P.W.IV: Maternal lithium and neonatal Ebstein's anomaly: evaluation with cross-sectional echocardiography. *American Journal of Perinatology*, 1:182-184, 1984.
9. Lawson, E.E. and Long, W.A.: Central neural respiratory response to carotid sinus nerve stimulation in newborns. *Journal of Applied Physiology*, 56:1614-1620, 1984.
10. Long, W.A. and Lawson, E.E.: Neurotransmitters and the biphasic respiratory response to hypoxia. *Journal of Applied Physiology*, 57:213-222, 1984.
11. Long, W.A., Schall, S.A. and Henry, G.Wm.: Cerebral arteriovenous malformation presenting as persistent fetal circulation: diagnosis by cross-sectional echo. *American Journal of Perinatology*, 1:236-241, 1984.



Publications: Refereed Journals

12. Henry, G.W., Lawson, E.E., Perry, J.R., and Long, W.A.: Radionuclide diagnosis of cerebrospinal-pericardial communication and cardiac tamponade after ventriculo-atrial catheter placement for hydrocephalus. *Catheterization and Cardiovascular Diagnosis*, 10:349-352, 1984.
13. Long, W.A., Lawson, E.E., Perry, J.R., Harned, H.S. Jr, and Henry, G.W.: Radionuclide diagnosis of infradiaphragmatic total anomalous pulmonary venous drainage. *Pediatric Cardiology*, 6:69-76, 1985.
14. Long, W.A., Willis, P.A., Henry, G.W.: Childhood ventricular aneurysm complicating traumatic myocardial infarction: diagnosis by cross-sectional echocardiography. *Journal of the American College Cardiology*, 6:1478-1483, 1985.
15. Long, W.A., Perry, J.R., Henry, G.W.: Radionuclide diagnosis of anomalous origin of the right pulmonary artery from the ascending aorta. *International Journal of Cardiology*, 8:492-496, 1985.
16. Long, W.A., Rubin, L.J.: Prostacyclin and PGE1 treatment of pulmonary hypertension. *American Review Respiratory Disease*, 136:773-776, 1987.
17. Long, W.A. Prostaglandins and control of breathing in newborn piglets. *Journal of Applied Physiology*, 64:409-418, 1988.
18. Gingras, J.L, Long, W.A.: Chronic maternal hypoxia: The effects of mid gestational maternal hypoxia on methionine-enkephalin concentrations within pre and postnatal rabbit brainstem regions. *Developmental Neuroscience*, 10:180-189, 1988.
19. Rubin, L.J., Mendoza, J., Hood, M., McGoon, M., Barst, R., Williams W.B., Diehl, J.H., Crow, J., Long, W. Treatment of primary pulmonary hypertension with continuous intravenous prostacyclin: results of a randomized trial. *Annals Internal Medicine*, 112:485-491, 1990.
20. Palevsky, H.I., Long, W.A., Crow, J.W., Fishman, A.P.: Prostacyclin and acetylcholine as screening agents for acute pulmonary vasodilator responsiveness in primary pulmonary hypertension. *Circulation*, 82:2018-2026, 1990.
21. Bose, C., Corbet, A., Bose, G., Garcia-Prats, J., Lombardy, L., Wold, D., Donlon, D., Long, W.: Improved outcome at 28 days of very low birth weight infants treated with a single dose of synthetic surfactant, *Journal of Pediatrics*, 117:947-953, 1990.
22. Long, W.A., Thompson, T., Sundell, H., Schumacher, R., Volberg, F., Guthrie, R.: Effects of two rescue doses of a synthetic surfactant on mortality in 700-1300 gram infants with RDS, *Journal of Pediatrics*, 118:595-605, 1991.

Publications: Refereed Journals

23. Corbet, A.J., Bucciarelli, R., Goldman, S.A., Mammel, M.A., Wold, D., Long, W.A.: Decreased mortality rate among small premature infants treated at birth with a single dose of synthetic surfactant: a multicenter controlled trial. *Journal of Pediatrics*, 118:277-284, 1991.
24. Krzeski, R., Long, W., Katayama, H., Henry, W.: Hemodynamic effects of endothelin-1 in the newborn piglet: influence on pulmonary and systemic vascular resistance. *J. Cardiovascular Pharmacol.*, 17:S322-S325, 1991.
25. Long, W.A., Groves, B.M., Rubin, L.J., Reeves, J.T., Barst, R.J., Moser, K.M., Mellins, R.B., Palevsky, H.I., Fishman, A.P., Frosolono, M.F., Crow, J.W.: Acute hemodynamic effects of prostacyclin in 100 primary pulmonary hypertension patients. *Circulation*, in press.
26. Corbet, A.J., Long, W.A., Murphy, D.J., Garcia-Prats, J.A., Lombardy, L.J., Wold, D.E. Reduced mortality in small premature infants treated at birth with a single dose of synthetic surfactant. *Journal of Paediatrics and Child Health*, 27:245-249, 1991.
27. Long, W.A., Corbet, A.J., Cotton, R., et al.: A controlled trial of synthetic surfactant in infants weighing 1250g or more with respiratory distress syndrome. *NEJM*, 325:1696-1703, 1991.
28. Gerdes, J., Whitsett, J., Long, W. Elastase activity and surfactant protein concentration in tracheal aspirates from neonates receiving synthetic surfactant. *J. Pediatrics*, in press.
29. Van Houten, J., Long, W., Mullett, M., Pramanik, A., Derleth, D., McMurray, B., Peliowski, A., Walker, D., Wold, D., Corbet, A., American Exosurf Neonatal Study Group I, and Canadian Exosurf Neonatal Study Group: Pulmonary hemorrhage in premature infants following treatment with exogenous surfactant: an autopsy evaluation. *J. Pediatrics*, in press.
30. Hazan, J., Chessex, P., Piedboef, B., Bourgeois, M., Bard, H., Long, W.: Energy expenditure during synthetic surfactant replacement for neonatal respiratory distress syndrome. *J. Pediatrics*, in press.
31. Stevenson, D., Long, W., Bose, C., Pauly, T., Walther, F., Gong, A., Easa, D., LeBlanc, M., Anday, E., Corbet, A., and American Exosurf Neonatal Study Group I: Controlled trial of a single dose of synthetic surfactant at birth in premature infants weighing 500-699 grams. *J. Pediatrics*, in press.
32. Bhutani, V., Abbassi, S., Gerdes, J., Long, W.: Pulmonary mechanics and energetics in preterm infants who had respiratory distress syndrome treated with exogenous surfactant. *J. Pediatrics*, in press.
33. Krzeski, R., Katayama, H., Bonhoeffer, P., Lucas, C.L., Long, W.A., Henry, G.W.: Obstructing balloon catheter for the induction of systolic hypertension in the pulmonary ventricle- an acute hemodynamic study. *Cardiol Young* 2:89-94, 1992.

33. Maroto, E., Fouron, J-C., Teyssier, G., Carthwright, D., van Doesburg, N., Bard, H., Long, W.: Effect of the simultaneous use of synthetic surfactant and indomethacin on ductus arteriosus closure in preterm infants. *Pediatr Research*, submitted.

Publications: Books, Book Chapters, and Other Articles

1. Long, W.A.: Structural cardiovascular abnormalities presenting as persistent pulmonary hypertension of the newborn. In Phillips, Joseph B. (ed), Neonatal Pulmonary Hypertension, Clinics in Perinatology, W.B. Saunders, Philadelphia, 11:601-627, 1984.
2. Lawson, E.E., Long, W.A., Gingras-Leatherman, J., McNamara, M.C.: Hypoxia and endogenous neurotransmitters in newborns. In Bianchi, A.L. and M. Denavit-Saubie (eds), Neurogenesis of Central Respiratory Rhythm: Electrophysiological, Pharmacological, and Pathological Aspects, MTP Press Limited, Lancaster, England, pp. 422-431, 1985.
3. Long, W.A., Lawson, E.E.: Influence of prostaglandins on breathing in newborn piglets. In von Euler, C. and H. Lagercrantz (eds), Neurobiology of the Control of Breathing, Raven Press, New York, New York, pp. 125-131, 1986.
4. Long, W.A., Sanders, R.L.: New treatment methods in idiopathic respiratory distress syndrome: replacement of surface active material. In Guthrie, R.B. (ed), Neonatal Intensive Care, Clinics in Critical Care Medicine, 13:21-56, 1988.
5. Long, W.A. (ed): Fetal and Neonatal Cardiology, W.B. Saunders, Philadelphia, 1990, 863 pp.
7. Long, W.A.: Developmental pulmonary circulatory physiology. In Long, W.A. (ed), Fetal and Neonatal Cardiology, W.B. Saunders, Philadelphia, pp. 76-96, 1990.
8. Long, W.A.: Pneumopericardium. In Long, W.A. (ed), Fetal and Neonatal Cardiology, W.B. Saunders, Philadelphia, pp.377-388, 1990.
9. Long, W.A.: Persistent pulmonary hypertension of the newborn syndrome (PPHNS). In Long, W.A. (ed), Fetal and Neonatal Cardiology, W.B. Saunders, Philadelphia, pp. 627-655, 1990.
10. Long, W.A., Brown, D.L.: Central neural regulation of the pulmonary circulation. In Fishman, A.P. (ed), The Pulmonary Circulation. Normal and Abnormal. University of Pennsylvania Press, Philadelphia, pp. 121-150, 1990.
11. Long, W.A.: Primary pulmonary hypertension. In Harned, H.S. Jr. (ed), Pulmonary Heart Disease In The Young, Little Brown, Boston, pp. 263-279, 1990.

Publications: Books, Book Chapters, and Other Articles

12. Henry, G.W., Long, W.A., Lucas, C.L.: Future directions in the investigation of pulmonary hypertension in children. In Harned, H.S. Jr. (ed), Pulmonary Heart Disease In The Young, Little Brown, Boston, pp. 379-398, 1990.
13. Lombardy, L., Tilson, H., Joseph, M., Andrews, E., Doi, P., Long, W. EXOSURF Pediatric Treatment IND: A regulatory mechanism to make surfactant available to infants with RDS. Neonatal Intensive Care 3:24-27, 1990.
14. Sherman, M.P., Campbell, L.A., Merritt, T.A., Shapiro, D.L., Long, W.A., Gunkel, J.H.: The infected preterm rabbit lung. A model to test the effects of surfactant treatments on host lung defenses. In von Wichert, P. and Muller, B. (eds): Basic Research on Lung Surfactant, Basel, Karger, Progress Respir Research 25:204-208, 1990.
15. Long, W.A., Henry, G.Wm.: Central neural and autonomic regulation of fetal cardiovascular function. In Polin, R.A., Fox, W.W. (eds), Neonatal and Fetal Medicine: Physiology and Pathophysiology, W.B. Saunders, Philadelphia, pp. 629-645, 1992.
16. Pattishall, E., Long, W.A.: Surfactant replacement in adult respiratory distress syndrome. In Fishman, A.P. (editor), Textbook of Pulmonary Medicine, McGraw Hill, Philadelphia, in press.

Presentations: Papers (See also Publications: Abstracts)

1. Long, W.A., and Lawson, E.E. Central neural origin of the biphasic response to hypoxia. Presented to Southeastern Conference on Perinatal Research, March 12, 1980, Innisbrook, Florida.
2. Long, W.A. and Lawson, E.E.: Maturation of the superior laryngeal nerve inhibitory effect. Am. Rev. Resp. Dis., 123:166, 1981. Presented to American Thoracic Society, May 12, 1981, Detroit, Michigan.
3. Long, W.A., Lawson, E.E., Perry, J.R., and Henry, G.W.: Obstructed total anomalous pulmonary venous return: New and neglected diagnostic signs. Clin. Res. 29:876A, 1981. Presented to Southeastern Pediatric Cardiology Society, October 19, 1981, Williamsburg, Virginia.
4. Long, W.A. and Lawson, E.E.: Supra-brainstem inhibition of respiration during carotid sinus nerve stimulation in piglets. Pediatr. Res. 16:297A, 1982. Presented to Society for Pediatric Research, May 11, 1982, Washington, D.C.
5. Long, W.A. and Kraybill, E.N.: The cardiac significance of neonatal pleural effusion. Pediatric Cardiology 3:341, 1982. Presented to Southeastern Pediatric Cardiology Society, September 11, 1982, Sea Island, Georgia and to Section on Cardiology (Young Investigator Competition), American Academy of Pediatrics, October 23, 1982, New York, New York.
6. Long, W.A. and Lawson, E.E.: Evidence for a switch mechanism maintaining apnea after superior laryngeal nerve stimulation. Clinical Research, 31:916A, 1984. Presented to the Southern Society for Pediatric Research, January 18, 1984, New Orleans, Louisiana.
7. Long, W.A., Lawson, E.E., Sibrack, D., Kelsey, D., and Kraybill, E.N.: Congenital syphilitic pneumonia. Clinical Research, 31:904A, 1984. Presented to the Southern Society for Pediatric Research, January 18, 1984, New Orleans, Louisiana.
8. Long, W.A. and Lawson, E.E.: Neurotransmitters and the biphasic respiratory response to hypoxia in piglets. Pediatr. Res., 17:324A, 1983. Presented to 17th Annual Intra-Science Symposium, The Sudden Infant Death Syndrome, February 23, 1984, Santa Monica, California.
9. Long, W.A. and Lawson, E.E.: The role of the central nervous system in pulmonary hypertension. In Abstracts: Second World Congress of Pediatric Cardiology, edited by Doyle, EF, Engle, MA, Gersony, WM, Talner, NS, published by Springer-Verlag, New York, 1985, p. 84. Presented to the Second World Congress of Pediatric Cardiology, June 3, 1985, New York, New York.

Presentations: Papers (See also Publications: Abstracts)

10. Long, W.A., Denfield, S., and Covert, R.: Congenital cardiomyopathies presenting as persistent pulmonary hypertension of the newborn syndrome. Presented to the Southeastern Pediatric Cardiology Society, September 21, 1985, Wilmington, North Carolina.
11. Long, W.A.: Prostaglandins and control of breathing in the newborn piglet. Abstract Book, Sixth International Conference on Prostaglandins and Related Compounds, p.113. Presented to conference of same title June 3, 1986, Florence, Italy.
12. Long, W.A., Barst, R.J., Fishman, A.P., Groves, B.S., Frosolono, M.F., Moser, K.M., Palevsky, H.J., Reeves, J.T., Cato, A.E.: Acute hemodynamic effects of prostacyclin in 65 primary pulmonary hypertension patients. Journal of Critical Care, 1: 128-129, 1986. Presented to the Symposium "Pulmonary Circulation in Health and Disease", July 16, 1986, Madison, Wisconsin.
13. Long, W.A., Barst, R.J., Fishman, A.P., Groves, B.S., Frosolono, M.F., Moser, K.M., Palevsky, H.J., Reeves, J.T., Cato, A.E.: Pulmonary vasodilating effects of prostacyclin in primary pulmonary hypertension. Circulation, 74:127. Presented to the American Heart Association, November 18, 1986.
14. Long, W.A.: Eicosanoids and respiratory control in neonatal piglets. American Review Respiratory Disease, 135:A176. Presented to the American Thoracic Society, May 10, 1987, New Orleans, Louisiana.
15. Long, W.A.: Superior laryngeal nerve-induced reflex pulmonary hypertension in neonatal piglets. American Review Respiratory Disease, 135:A299, 1987. Presented to the American Thoracic Society, May 10, 1987, New Orleans, Louisiana.
16. Long, W.A.: Upper airway induced reflex pulmonary hypertension. Archives Diseases Childhood, 1988. Presented to the 60th meeting, British Paediatric Association, York, England, April 13, 1988.
17. U.S. EXOSURF Pediatric Study Group: Effects of two rescue doses of EXOSURF Pediatric in 419 700-1350 gram infants. Pediatric Research 27:228A, 1990. Presented to the Society for Pediatric Research, May 7, 1990, Anaheim, California.
18. U.S. EXOSURF Pediatric Study Group: Effects of EXOSURF Pediatric on infants with occult congenital pneumonia. Pediatric Research 27:228A, 1990. Presented to the Society for Pediatric Research, May 7, 1990, Anaheim, California.
19. U.S. EXOSURF Pediatric Study Group: Effects of a single prophylactic dose of EXOSURF Pediatric in 446 700-1100 gram infants. Pediatric Research 27:228A, 1990. Presented to the Society for Pediatric Research, May 8, 1990, Anaheim, California.

Presentations: Papers (See also Publications: Abstracts)

20. U.S. and Canadian EXOSURF Pediatric Study Groups: Effects of two rescue doses of EXOSURF Pediatric in 1232 infants  $\geq 1250$  grams. Pediatric Research 27:320A, 1990. Presented to the Society for Pediatric Research, May 8, 1990, Anaheim, California.
21. Canadian EXOSURF Pediatric Study Group: Effects of two rescue doses of EXOSURF Pediatric in 342 750-1249 gram infants. Pediatric Research 27:200A, 1990. Presented to the Society for Pediatric Research, May 9, 1990, Anaheim, California.
22. Long, W., Stevenson, D. Pauly, T., LeBlanc, M., and the American Exosurf<sup>R</sup> Neonatal Study Group I. Effects of a single prophylactic dose of Exosurf Neonatal in 215 500-700 gram infants. Pediatric Research, 1991;29:223A. Presented to the Society for Pediatric Research, May, 1991, New Orleans, Louisiana.

Publications: Abstracts (See also Presentations: Papers)

1. Lawson, E.E. and Long, W.A.: Carotid sinus nerve and central respiratory drive in newborns. *The Physiologist* 23:140; 1980. Presented to the American Physiological Society, October 16, 1980, Toronto, Canada.
2. Lawson, E.E., Haddad, A.G. and Long, W.A.: Central neural maturation of the excitatory response to carotid sinus nerve stimulation. *Pediatr. Res.* 15:668, 1981. Presented to Society for Pediatric Research, April 30, 1981, San Francisco, California.
3. Long, W.A. and Lawson, E.E.: Naloxone enhances respiratory output in piglets through four weeks of age. *Pediatr. Res.*, 15:725, 1981.
4. Lawson, E.E. and Long, W.A.: Interaction of carotid sinus nerve and superior laryngeal nerve afterdischarge mechanisms. Presented to International SIDS Conference, June 28, 1982, Baltimore, Maryland.
5. Lawson, E.E. and Long, W.A.: Control of breathing during hypoxia in newborn piglets. *The Physiologist*, 25:187, 1982. Presented to the American Physiological Society, October 12, 1982, San Diego, California.
6. Long, W.A. and Lawson, E.E.: Developmental changes in a central neural inhibitory respiratory control mechanism. *Pediatr. Res.* 17:381A, 1983.
7. Long, W.A., Lawson, E.E., and Ulshen, M.H.: Congenital syphilitic hepatitis. *Pediatr. Res.*, 17:195A, 1983.
8. Henry, G.W., Long, W.A., Perry, J.R., Lawson, E.E. and Harned, H.S. Jr.: Radionuclide angiography in the diagnosis of obstructed total anomalous pulmonary venous drainage. *Pediatr. Res.*, 17:114A, 1983.
9. Lawson, E.E. and Long, W.A.: Central interaction of excitatory and inhibitory reflexes in piglets. *Am. Rev. Resp. Dis.*, 127:247, 1983. Presented to the American Thoracic Society, May 8, 1983, Kansas City, Missouri.
10. Lawson, E.E. and Long, W.A.: Failure to alter the biphasic respiratory pattern during hypoxia in newborns. *Federation Proceedings*, 43:645, 1984. Presented to the Federation of American Societies for Experimental Biology, April 3, 1984, St. Louis, Missouri.
11. Groves, B.M., Ditchey, R.F., Reeves, J.T., Frosolono, M.F., Long, W.A.: Comparison of prostacyclin to acute and chronic diltiazem in primary pulmonary hypertension. *Journal of the American College of Cardiology*, 5:442, 1985. Presented to the American College of Cardiology, March 12, 1985, Anaheim, California.



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12. Barst, R.J., Long, W.A., Stalcup, S.A.: Response to prostacyclin (PGI<sub>2</sub>) predicts response to subsequent vasodilator therapy in primary pulmonary hypertension (PPH). *Pediatric Research*, 19:124A, 1985.
13. Rubin, L.J., Long, W.A., Cato, A.E.: Hemodynamic effects of prostacyclin and BW245C in patients with cor pulmonale from chronic obstructive pulmonary disease. Abstract Book, Sixth International Conference on Prostaglandins and Related Compounds, p. 137, 1986. Presented to the conference of the same title, June 3, 1986, Florence, Italy.
14. Rubin, L.J., Mendoza, J., Long, W.: Rest and exercise hemodynamic effects of prostaglandin I<sub>2</sub> in chronic cor pulmonale. *American Review Respiratory Disease*, 135:A301, 1987. Presented to the American Thoracic Society, May 10, 1987, New Orleans, Louisiana.
15. Gingras, J., Long, W.: The effect of inutero hypoxia on methionine enkephalin concentration within brainstem regions of prenatal and postnatal animals. *American Review Respiratory Disease*, 135:A176, 1987. Presented to the American Thoracic Society, May 10, 1987, New Orleans, Louisiana.
16. Gingras, J., Long, W.: Postnatal effects of inutero hypoxia on the concentration of methionine enkephalin within rabbit brainstem regions. *Pediatric Research*, 21:245, 1987. Presented to the Society for Pediatric Research, April, 1987, Anaheim, California.
17. Gingras, J., Long, W.: Chronic maternal third trimester hypoxia on methionine enkephalin levels in preterm rabbit brainstem. *Pediatric Research*, 21:245, 1987. Presented to the Society for Pediatric Research, April, 1987, Anaheim, California.
18. Long, W.A.: Effects of chemoreceptor sectioning on hypoxia induced pulmonary hypertension. *American Review Respiratory Disease*, 135:A520, 1987.
19. Gingras, J., Rigual, R., Unsworth, C., Viveros, H., Long, W.: Maternal hypoxia alters adrenal medullary total opiod activity and native enkephalin levels but not catecholamine levels in preterm and postnatal rabbit pups. *Pediatric Research*, 23:242A, 1988.
21. Sherman, M.P., Campbell, L.A., Merritt, T.A., Shapiro, D.L., Long, W.A., Gunkel, J.H.: In vitro growth of bacteria in clinically relevant surfactant preparations. Conference Proceedings, Basic Research Symposium on Surfactant, Marburg, West Germany, September, 1988.

Publications: Abstracts (See also Presentations: Papers)

22. Sherman, M.P., Campbell, L.A., Merritt, T.A., Shapiro, D.L., Long, W.A.: Surfactant therapy and in vivo bacterial activity of the preterm rabbit lung. Conference Proceedings, Basic Research Symposium on Surfactant, Marburg, West Germany, September, 1988.
23. Gingras, J., Rigual, R., Unsworth, C., Viveros, O., Long, W.A.: Effect of maternal hypoxia on enkephalin and catecholamine levels in rabbit pup adrenal medulla. Society for Neuroscience Abstracts 14:1320, 1988. Presented to the Society for Neuroscience, Toronto, Canada, November 18, 1988.
24. Rubin, L.J., McGoon, M., Barst, R., Williams, W.B., Long, W.: Treatment of primary pulmonary hypertension with continuous intravenous prostacyclin. Circulation 80:II-87, 1989.
25. Fouron, J.C, Maroto, E., Teyessier, G., Carthwright, D., van Doesburg, N, Bard, H., Long, W.: Synthetic surfactant (EXOSURF) does not alter the constrictive effect of indomethacin on the ductus arteriosus (DA) of preterm newborn infants (PNI). 3rd World Congress of Pediatric Cardiology Abstracts, in press. Presented to the 3rd World Congress of Pediatric Cardiology, Bangkok, Thailand, November 28, 1989.
26. Bhutani, V.K., Abbasi, S., Long, W.A., Gerdes, J.S.: Improved pulmonary compliance in neonates (>1100 gm) with RDS treated with Exosurf Pediatric in randomized double blind studies. Pediatric Research 27:198A, 1990.
27. Corbet, A., Bose, C., Long, W., Bose, G., Garcia-Pratts, J., Lombardy, L.: Effects of a single prophylactic dose of EXOSURF Pediatric at birth in 700-1350 gram infants. Pediatric Research 27:298A, 1990. Presented to the Society for Pediatric Research, May 8, 1990, Anaheim, California.
28. Gerdes, J.S., Long, W.A.: Bronchoalveolar lavage (BAL) elastase (EL) activity in neonates with RDS treated with Exosurf Pediatric (EXO). Pediatric Research 27:303A, 1990.
29. Gerdes, J.S., Long, W.A., Hull, W., Whitsett, J.A.: Surfactant proteins A and B in bronchoalveolar lavage (BAL) from neonates with RDS treated with EXOSURF Pediatric. Pediatric Research 27:303A, 1990. Presented to the Society for Pediatric Research, May 8, 1990, Anaheim, California.
30. Pramanik, A.K., Long, W.A.: Effect of surfactant substitution on lung effluent phospholipids in premature infants. Pediatric Research 27:314A, 1990.

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31. Rubin, L.J., Thorn, M., Mendoza, J., Hood, M., Barst, R., McGoon, M., Greenstein, F., Long, W., Crow, J.: The influence of continuous therapy with intravenous prostacyclin on survival in primary pulmonary hypertension. Abstract Book, 7th International Conference on Prostaglandins and Related Compounds, p. XX. Presented to the 7th International Conference on Prostaglandins and Related Compounds, May 31, 1990, Florence, Italy.
32. Long, W., Terris, D.S., Brown, D.L., Crow, J.: BW 15AU, a stable, orally available prostacyclin analogue, reduces pulmonary vascular resistance in newborn piglets during both hypoxia and hyperoxia. Abstract Book, 7th International Conference on Prostaglandins and Related Compounds, p. 72. Selected for presentation to the 7th International Conference on Prostaglandins and Related Compounds on May 28, 1990, Florence, Italy (but not presented due to competing priorities).
33. Krzeski, R., Katayama, H., Long, W., Henry, W., Lucas, C., Ferrerio, J. Hemodynamic effects of endothelin-1 in the newborn piglet. J. Vasc. Med. Biol. 2:205, 1990. Presented to the Second International Conference on Endothelin, December 11, 1990, Tsukuba, Japan.
34. Smyth, J., Allen, A., Sankaran, K., MacMurray, B., Peliowski, A., Watson, D., Walker, D., Houle, L., Long, W., and the Canadian Exosurf Neonatal Study Group. Effects of two rescue doses of Exosurf Neonatal in 221 500-749 gram infants. Pediatric Research, 1991;29:330A.
35. Gerdes, J., Cook, L., Beaumont, E., Corbet, A., Long, W., and the U.S. Exosurf Neonatal Study Groups I and II. Effects of three vs one prophylactic doses of Exosurf Neonatal in 700-1100 gram infants. Pediatric Research, 1991;29:214A. Presented to the Society for Pediatric Research, May, 1991, New Orleans, Louisiana.
36. Berry, D., Philips, J., Puri, A., Buchter, S., Kanarek, K., Pramanik, A., Easa, D., Avila, E., Rosenberg, A., Kopelman, A., Long, W., and the American Exosurf Neonatal Study Group II. Effects of 50% increment/decrement in rescue dose of Exosurf Neonatal in 244  $\geq$ 1250 gram infants. Pediatric Research, 1991;29:204A. Presented to the Society for Pediatric Research, May, 1991, New Orleans, Louisiana.
37. Walter, D., McGuinness, G., Bose, C., Anday, E., Boros, S., McMillan, D., Bard, H., Demuth, G., Barrett, J., Lombardy, L., Long, W., the American Exosurf Neonatal Study Group I, and the Canadian Exosurf Neonatal Study Group. Double blind one year follow up in 1450 infants randomized to Exosurf Neonatal or air. Pediatric Research, 1991;29:270A. Presented to the Society for Pediatric Research, May, 1991, New Orleans, Louisiana.

Publications: Abstracts (See also Presentations: Papers)

38. Sell, M., Corbet, A., Gong, A., Edwards, K., Horton, J., Wold, D., Long, W., and the American Exosurf Neonatal Study Group I. Economic impact of a single prophylactic dose of Exosurf Neonatal in 700-1100 gram infants. *Pediatric Research*, 1991;29:265A.
39. Mammel, M., Mullett, M., Derleth, D., Conway, B., Wold, D., Phillips, L., Zucker, J., Long, W., and the American Exosurf Neonatal Study Group I. Economic impact of two rescue doses of Exosurf Neonatal in 700-1350 gram infants. *Pediatric Research*, 1991;29:260A. Presented to the Society for Pediatric Research, May, 1991, New Orleans, Louisiana.
40. Schumacher, R., Burchfield, D., Vaughan, R., Courtney, S., McKenzie, K., Alexander, S., Blackburn, S., Long, W., and the American Exosurf Neonatal Study Group I. Economic impact of two rescue doses of Exosurf Neonatal in  $\geq 1350$  gram infants. *Pediatric Research*, 1991;29:264A.
41. Murphy, D.J., Corbet, A.J., Long, W.A. The "natural" history of patent ductus arteriosus (PDA). *Pediatric Research*, 1991;29:245A. Presented to the Society for Pediatric Research, May, 1991, New Orleans, Louisiana.
42. Pramanik, A.K., Long, W.A. Tracheal aspirate phospholipids in neonates receiving surfactant therapy. *Clinical Research* 38:981A, 1991. Presented to the Southern Society for Clinical Research, February 1, 1991, New Orleans, Louisiana.
43. Krezski, R., Katayama, H., Henry, W., Lucas, C., Ferrerio, J. Hemodynamic effects of endothelin-1 in the newborn piglet: influence on the pulmonary and systemic resistance. *FASEB Journal*, 1991;5:A1722.
44. Krezski, R., Long, W., Henry, W., Katayama, H. Circulatory response to endothelin-1 injection into the pulmonary artery in the newborn piglet: role of baroreflex. *Pediatric Research* 1991; 29:45A.

Continuing Medical Education (CME)

1. Ross Conference on Perinatal Asphyxia, February 7-10, 1980, Key West, Florida (20 hours)
2. Southeastern Conference on Perinatal Research, March 9-12, 1980, Innisbrook, Florida (20 hours)
3. Society for Pediatric Research, May 2-5, 1980, San Antonio, Texas (30 hours)
4. Society for Pediatric Research, April 28 - May 2, 1981, San Francisco, California (30 hours)
5. American Thoracic Society, May 9-12, 1981, Detroit, Michigan (20 hours)
6. Southeastern Pediatric Cardiology Society, October 18-20, 1981, Williamsburg, Virginia (20 hours)
7. Society for Pediatric Research, May 9-12, 1982, Washington, D.C. (30 hours)
8. Section on Cardiology, American Academy of Pediatrics, October 21-25, 1980, New York, New York (20 hours)
9. Pathology of the Heart, American College of Cardiology, April 15-17, 1983, Philadelphia, Pennsylvania (20 hours)
10. Society for Pediatric Research, May 4-9, 1983, Washington, D.C. (30 hours)
11. Cross-sectional echocardiography of Congenital Heart Disease, American College of Cardiology, Heart House, June 7-9, 1983, Bethesda, Maryland (20 hours)
12. Clinical Decision Making in Congenital Heart Disease, American College of Cardiology, Heart House, September 19-21, 1983, Bethesda, Maryland (20 hours)
13. Twenty Fifth Anniversary Celebration, Cardiovascular Research Institute, October 16-21, 1983, San Francisco, California (30 hours)
14. Southern Society for Pediatric Research, American Federation For Clinical Research, Southern Society for Clinical Investigation, January 18-21, 1984, New Orleans, Louisiana (18 hours)
15. 17th Annual Intra-Science Symposium, The Sudden Infant Death Syndrome, February 22-24, 1984, Santa Monica, California (18 hours)

Continuing Medical Education (CME)

16. American College of Cardiology, Annual Meeting, March 25-29th, 1984, Dallas, Texas (30 hours).
17. International Symposium, Prostaglandins and Leukotrienes, George Washington University, May 8-11th, 1984, Washington, D.C (20 hours).
18. Clinical Decisions in Pediatric Cardiology, Children's Hospital and Health Center and Sharp Community Hospital, May 18-20th, 1984, San Diego, California (20 hours).
19. 18th Annual Duke McPherson Otolaryngology Symposium, Duke University Medical Center, June 1st-3rd, 1984, Durham, North Carolina (1 and 1/2 hours).
20. Basic Cardiac Life Support, American Heart Association, School of Medicine, University of North Carolina at Chapel Hill, June 18th, 1984 (3 hours).
21. Advanced Cardiac Life Support, American Heart Association, School of Medicine, University of North Carolina at Chapel Hill, June 19-20th, 1984 (16 hours).
22. Research Triangle Visiting Professor and Research Program, School of Medicine, University of North Carolina at Chapel Hill, "Chronic Obstructive Lung Disease", Seminar by David Bates, M.D., October 3, 1984 (1 hour).
23. Research Triangle Visiting Professor and Research Program, Duke University Medical Center, "Expiratory Flow Limitation: A Physiological Point of View, Part 1", Seminar by Jere Mead, M.D., October 31, 1984 (1 hour).
24. Leukotrienes, Piedmont Eicosanoid Forum, November 5, 1984, Durham, North Carolina (1 hour).
25. Clinical Pediatric Cardiac Electrophysiology, University of Miami, November 9-10, 1984, Miami Beach, Florida (16 hours).
26. Coronary Vasoconstriction: Experimental and Clinical Aspects, Marion Laboratories, November 10, 1984, Miami Beach, Florida, (2 hours).
27. Amrinone, Winthrop Breon Laboratories, November 11, 1984, Miami, Florida (2 hours).
28. 56th Annual Session, American Heart Association, November 11-15, 1984, Miami Beach, Florida (32 hours).
29. Newer Concepts in Cardiovascular Disease, Emory University, November 15, 1984, Miami Beach, Florida (3 hours).

Continuing Medical Education (CME)

30. Clinical Trials of the Use of Surfactant in the Neonatal Respiratory Distress Syndrome, Ross Laboratories Special Conference, November 29-December 1, 1984, Washington, D.C. (16 hours).
31. Pulmonary Circulation and Prostaglandins, Piedmont Eicosanoid Forum, February 25, 1985, Durham, North Carolina (1 hour).
32. 34th Annual Scientific Session, American College of Cardiology, March 10-14, 1985, Anaheim, California (35 hours).
33. Pediatric Electrocardiography and Electrophysiology, April 25-27, 1985, American College of Cardiology, Heart House, Bethesda, Maryland (20 hours).
34. American Thoracic Society, May 13-16, 1985, Anaheim, California (15 hours)
35. Second World Congress of Pediatric Cardiology, June 2-6, 1985, New York, New York (30 hours).
36. Southeastern Pediatric Cardiology Society, September 19-21, 1985, Wilmington, North Carolina (15 hours).
37. Clinical Decision Making in Pediatric and Congenital Heart Disease, September 30- October 3, 1985, American College of Cardiology of Cardiology, Heart House, Bethesda, Maryland (26 hours).
38. 32nd Annual Meeting, Section on Cardiology, American Academy of Pediatrics, October 18, 1985, San Antonio, Texas (8 hours).
39. Research Triangle Visiting Pulmonary Scholar Program, Duke University Medical Center, Durham, North Carolina, "Water and macromolecular exchange functions of the lung", a seminar by Alfred Fishman, M.D., December 5, 1985 (1 hour).
40. Research Triangle Visiting Pulmonary Scholar Program, Burroughs Wellcome Co., Research Triangle Park, North Carolina, "Primary pulmonary hypertension", a seminar by Alfred Fishman, M.D., December 6, 1985 (1 hour).
41. 35th Annual Scientific Session, American College of Cardiology, Atlanta, Georgia, March 9-12, 1986, (24 hours).
42. Preservation of Blood Products and Blood Substitutes, Boston University School of Medicine, Boston, Massachusetts, May 2, 1986 (4.5 hours).

Continuing Medical Education (CME)

43. Enhancing Your Practice, Wake Medical Center, Raleigh, North Carolina, March 20, 1986 (2 hours).
44. Sixth International Congress on Prostaglandins and Related Compounds, Florence, Italy, June 2-6, 1986 (24 hours).
43. Mid-Summer Digest, North Carolina Academy of Family Practice, Myrtle Beach, North Carolina, June 30-July 5, 1986 (30 hours).
44. Pulmonary Circulation in Health and Disease, Satellite symposium of the XXXth International Congress of Physiology, Madison, Wisconsin, July 8-11, 1986 (24 hours).
45. Second Annual Grover Conference, "Prostaglandins, leukotrienes, and platelet aggregating factor in the pathophysiology of the lung circulation", Sedalia, Colorado, September 15-18, 1986 (24 hours).
46. 52nd Annual Scientific Assembly, American College of Chest Physicians, San Francisco, California, September 23-27, 1986 (24 hours).
47. 59th Annual Meeting, American Heart Association, Dallas, Texas, November 17-21, 1986 (18 hours).
48. 36th Annual Scientific Session, American College of Cardiology, New Orleans, Louisiana, March 9-14, 1987 (24 hours).
49. International Conference on Primary Pulmonary Hypertension, Philadelphia, Pennsylvania, May 6-9, 1987 (18 hours).
50. American Thoracic Society, New Orleans, Louisiana, May 10-13, 1987 (24 hours).
51. 57th Annual Meeting, The Society for Pediatric Research, Washington, D.C., May 2-5, 1988 (16 hours).
52. Third Grover Conference On The Pulmonary Circulation: The Control of Cellular Proliferation in the Pulmonary Circulation". The Lost Valley Ranch, Deckers, Colorado, September 17-21, 1988 (24 hours).
53. 54th Annual Scientific Assembly, American College of Chest Physicians, Anaheim, California, October 2-7, 1988 (24 hours)
54. 61st Annual Meeting, American Heart Association, Washington, D.C., November 12-18 1988 (18 hours).



Continuing Medical Education (CME)

55. Special Ross Conference: Hot Topics in Neonatology 88,  
Washington, D.C., December 11-12, 1988 (16 hours).
56. Eleventh Annual Conference, Idaho Perinatal Project,, Boise, Idaho,  
January 25-27, 1989.
57. 58th Annual Meeting, The Society for Pediatric Research, Washington,  
D.C., May 2-5, 1988 (30 hours).
58. 59th Annual Meeting, The Society for Pediatric Research, Washington,  
D.C., May 1-4, 1989 (30 hours).
62. Annual Meeting, American Academy of Pediatrics, Chicago,  
Illinois, October 23, 1989 (6 hours).
59. International Conference, "60 Years of Surfactant Research",  
Rotterdam, Holland, November 12-17, 1989 (28 hours)
60. 60th Annual Meeting, The Society for Pediatric Research, Anaheim,  
California, May 6-9, 1990 (30 hours).
61. American Association for Aerosol Research, Philadelphia,  
Pennsylvania, June 18, 1990 (6 hours).
62. Fourth Grover Conference On The Pulmonary Circulation, Lost Valley  
Ranch, Deckers, Colorado, September 13-17, 1990 (20 hours).
63. Symposium, "Perinatology 1990", Pennsylvania Hospital and the  
University of Pennsylvania School of Medicine, Philadelphia,  
Pennsylvania, October 17, 1990 (6 hours).
64. Symposium, "Innovations in Neonatal and Pediatric Drug Therapy",  
American Society for Hospital Pharmacy, Las Vegas, Nevada,  
December 2, 1990 (4 hours).
65. Annual Meeting, American Academy of Pediatrics, Boston,  
Massachusetts, October 27, 1990 (6 hours).
66. Special Ross Conference: Hot Topics in Neonatology 90, Washington,  
D.C., December 8-9, 1990 (16 hours).
67. "23rd Annual Cardiovascular Symposium", American College of  
Cardiology, New York, New York, December 15, 1990 (6 hours).
68. 61st Annual Meeting, The Society for Pediatric Research, New Orleans,  
Louisiana, April 29-May 2, 1991 (\_\_\_ hours).

Presentations: Lectures and Seminars

1. Neonatology Conference, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill North Carolina: "Necrotizing Enterocolitis", September 25, 1979.
2. Fourth Annual Perinatal Course, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "Neonatal Shock", "Fluid and Electrolyte Management in the Newborn", October 10, 17, 1979.
3. Miniresidency in Perinatology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "Neonatal Infections", January 22, 1980, February 25, 1980, March 19, 1980.
4. Neonatology Conference, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "Persistent Fetal Circulation", August 13, 1980.
5. Neonatology Research Seminar, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "Control of Respiration", September 10, 1980.
6. Pediatric Noon Conference, North Carolina Memorial Hospital, Chapel Hill, North Carolina: "Persistent Fetal Circulation", September 26, 1980.
7. Neonatology Conference, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "Obstructed Total Anomalous Pulmonary Venous Drainage", October 1, 1980.
8. Pediatric Grand Rounds, New Hanover Memorial Hospital, Wilmington, North Carolina: "Congenital Syphilis", October 7, 1980.
9. Mini-Fellowship in Perinatology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "Acute Respiratory Distress in Newborns", January 20, 1981, February 25, 1981, and March 16, 1981.
10. Pediatric Grand Rounds, Wake Memorial Hospital, Raleigh, North Carolina: "Persistent Fetal Circulation, Diagnosis and Treatment", February 19, 1981.
11. Neonatal Intensive Care Course for Perinatal Region IV, Wake Memorial Hospital, Raleigh, North Carolina: "Formation and Physiology of Blood Elements in Neonates", March 25, 1981.
12. Combined Medicine/Pediatrics Infectious Disease Conference, North Carolina Memorial Hospital, Chapel Hill, North Carolina: "Congenital Syphilitic Pneumonia: Analysis of Five Cases", April 5, 1981.
13. Pediatric Grand Rounds, North Carolina Memorial Hospital, Chapel Hill, North Carolina: "Epidemiology of Congenital Herpes", April 25, 1981.

Presentations: Lectures and Seminars

14. Research Seminar, St Joseph's Hospital, Ontario, Canada: "Developmental Changes in the Superior Laryngeal Nerve Inhibitory Effect", May 11, 1981.

15. Seventh Annual Postgraduate Course in Perinatology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "Can the Group B Streptococcus be Prevented?", June 5, 1981.

16. Mini-Fellowship in Perinatology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina: "The Cyanotic Newborn", March 2, 1982.

17. Pediatric Housestaff Conference, North Carolina Memorial Hospital, Chapel Hill, North Carolina, "Clinical approach to neonatal cyanosis", August 23, 1982.

18. Mini-Fellowship in Perinatology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, "Lung vs Heart: Newborn Cyanosis", January 26, 1983.

19. Congenital Heart Disease Section, Cardiovascular Course, Second Year, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, "Demonstration of physiologic and radiologic methods", September 1, 1983.

20. Mini-Fellowship in Maternal/Fetal/Neonatal Medicine, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, "Recognition and Management of the neonate with RDS or cyanosis", January 26, 1984, and March 2, 1984.

21. Visiting Lectureship, Maternidad Hospital del Salvador, Facultad de Medicina, Universidad de Chile, Santiago, Chile, "Central neural regulation of breathing in the newborn", April 5, 1984.

22. Pediatric Housestaff Conference, North Carolina Memorial Hospital, Chapel Hill, North Carolina, "Diagnosis and management of congestive heart failure", July 5, 1984.

23. Congenital Heart Disease Section, Cardiovascular Course, Second Year, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, "Demonstration of physiologic and radiologic methods", August 30, 1984.

24. Pediatric Cardiology Weekly Conference, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, "Recent developments in exercise testing, transposition of the great vessels, and balloon dilatation of coarctation and aortic stenosis", October 29, 1984.

25. Research Triangle Visiting Pulmonary Scholars Program, Duke University Medical Center, Durham, North Carolina, "Prostaglandins and Newborn Respiratory Control", March 6, 1985.

Presentations: Lectures and Seminars

26. Food and Drug Administration, Washington, D.C. "Primary pulmonary hypertension", May 3, 1985.

27. Symposium: Advances in Neonatal Care, School of Medicine, University of North Carolina, Chapel Hill, North Carolina, "Prospects for surfactant replacement therapy", May 17, 1985.

28. Grand Rounds, Wake Memorial Hospital, "Prospects for surfactant replacement therapy", Raleigh, North Carolina, May 29, 1985.

29. Housestaff Conference, Department of Pediatrics, School of Medicine, University of North Carolina, Chapel Hill, "Congestive heart Failure", July 18, 1985.

30. Grand Rounds, Department of Pediatrics, School of Medicine, University of North Carolina, Chapel Hill, "Persistent pulmonary hypertension of the newborn syndrome", July 25, 1985.

31. Seminar, Division of Clinical Research, Wellcome Research Laboratories, Research Triangle Park, North Carolina, "Laboratory values in clinical monitoring", February 26, 1986.

31. The Child in Family Practice, Mid-Summer Family Practice Digest, North Carolina Academy of Family Physicians, Myrtle Beach, South Carolina, "The child with a heart murmur", June 30, 1986.

32. Housestaff Conference, Department of Pediatrics, School of Medicine, University of North Carolina, Chapel Hill, "Congestive Heart Failure", July 28, 1986.

33. Symposium "The Pulmonary Circulation. Conference II: The role of lipid mediators." The Lost Valley Ranch, Deckers, Colorado, "Modification of pulmonary hypertension in COPD by prostacyclin", September 18, 1986.

34. Symposium "Pulmonary Vascular Disease", 52nd Annual Scientific Assembly, American College of Chest Physicians, San Francisco, California, "Prostaglandins in the spectrum of vasodilator therapy in pulmonary vascular disease", September 25, 1986.

35. Research Triangle Visiting Pulmonary Scholars Program, Duke University Medical Center, Durham, North Carolina, "Hemodynamic effects of prostacyclin in primary pulmonary hypertension", December 5, 1986.

36. Symposium "International Conference on Primary Pulmonary Hypertension", University of Pennsylvania, "Central neural regulation of the pulmonary circulation", May 6, 1987.

Presentations: Lectures and Seminars

37. Housestaff Conference, Department of Pediatrics, School of Medicine, University of North Carolina, Chapel Hill, "Congestive Heart Failure", September 3, 1987.

38. State Meeting, North Carolina Neonatologists, Raleigh, North Carolina, "Prospects for surfactant replacement therapy", April 22, 1988.

39. Pulmonary Research Seminar, UNC School of Medicine, Chapel Hill, North Carolina, "Prostaglandins in pulmonary hypertension", June 29, 1988.

40. Housestaff Conference, Department of Pediatrics, School of Medicine, University of North Carolina, Chapel Hill, "Congestive Heart Failure", August 9, 1988.

38. Symposium "The Third Grover Conference On The Pulmonary Circulation: The Control of Cellular Proliferation in the Pulmonary Circulation". The Lost Valley Ranch, Deckers, Colorado, "Longterm use of prostacyclin in primary pulmonary hypertension", September 21, 1988.

39. Symposium "New Drugs For Pulmonary Hypertension", 54th Annual Scientific Assembly, American College of Chest Physicians, Anaheim, California, "Prostacyclin in the treatment of pulmonary hypertension", October 7, 1988.

40. Symposium "Clinical Trials of Surfactant", Special Ross Conference: Hot Topics in Neonatology 88, Washington, D.C., "EXOSURF", December 12, 1988.

41. Eleventh Annual Conference, Idaho Perinatal Project,, Boise, Idaho, "Surfactant replacement therapy", January 26, 1988.

42. Eleventh Annual Conference, Idaho Perinatal Project,, Boise, Idaho, "Persistent pulmonary hypertension of the newborn syndrome", January 26, 1988.

43. Research Triangle Visiting Pulmonary Scholars Program, Duke University Medical Center, Durham, North Carolina, "Clinical experience with EXOSURF Pediatric", January 10, 1990.

44. Visiting Professor, Magee-Women's Hospital, University of Pittsburgh, "Prostacyclin treatment of pulmonary hypertension", and "Surfactant replacement therapy", October 17, 1990.

45. Visiting Professor, LSUMC, "The development of Exosurf", and "Surfactant replacement therapy", November 15, 1990.

Presentations: Lectures and Seminars

46. Research Triangle Visiting Pulmonary Scholars Program, Duke University Medical Center, Durham, North Carolina, "Effects of continuous infusions of prostacyclin on mortality in primary pulmonary hypertension", January 9, 1991.